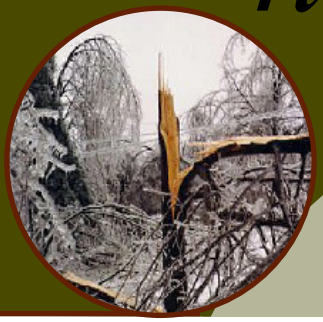
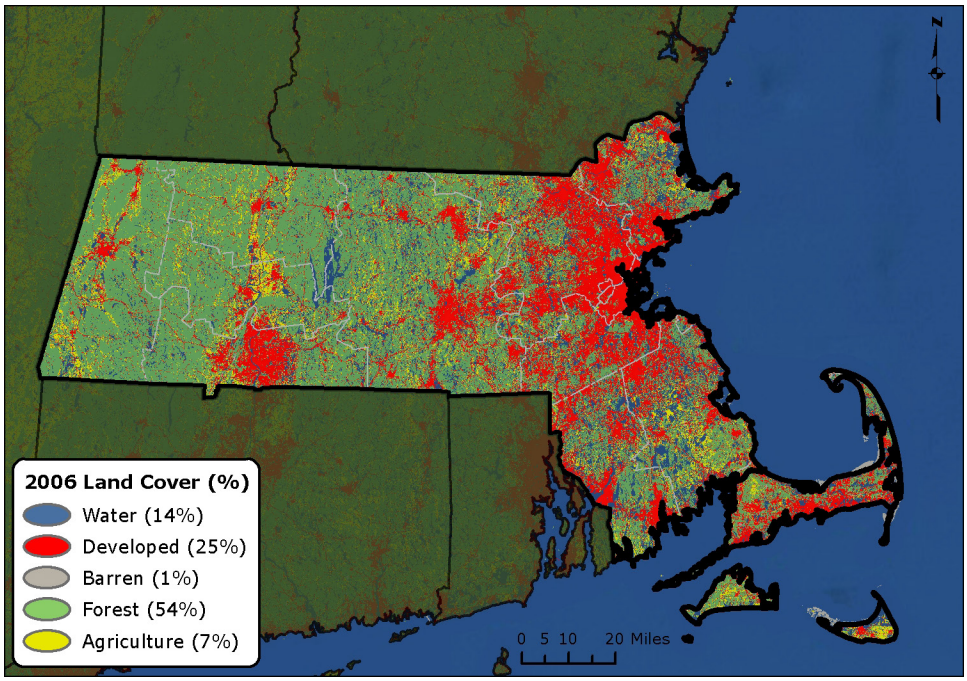
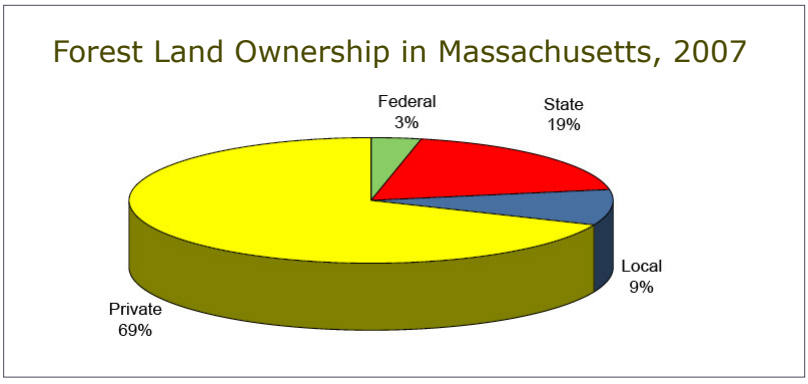
2013 Forest Health MASSACHUSETTS *highlights*



Forest Resource Summary

The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban State, about half of the land area is forested. This forested area is managed for a multitude of purposes, including recreation, water quality, wildlife habitat, and a forest product industry. About two-thirds (69 percent) of the forest land in Massachusetts is privately owned, with only 3 percent in Federal ownership; however, 28 percent is in State and local town ownership, which is unique in the region. The latest Massachusetts forest inventory estimated that there are approximately 3.2 million forested acres in the State. The forest resource is made up of a variety of forest types—mostly pine, oak, maples, other hardwoods, and eastern hemlock.

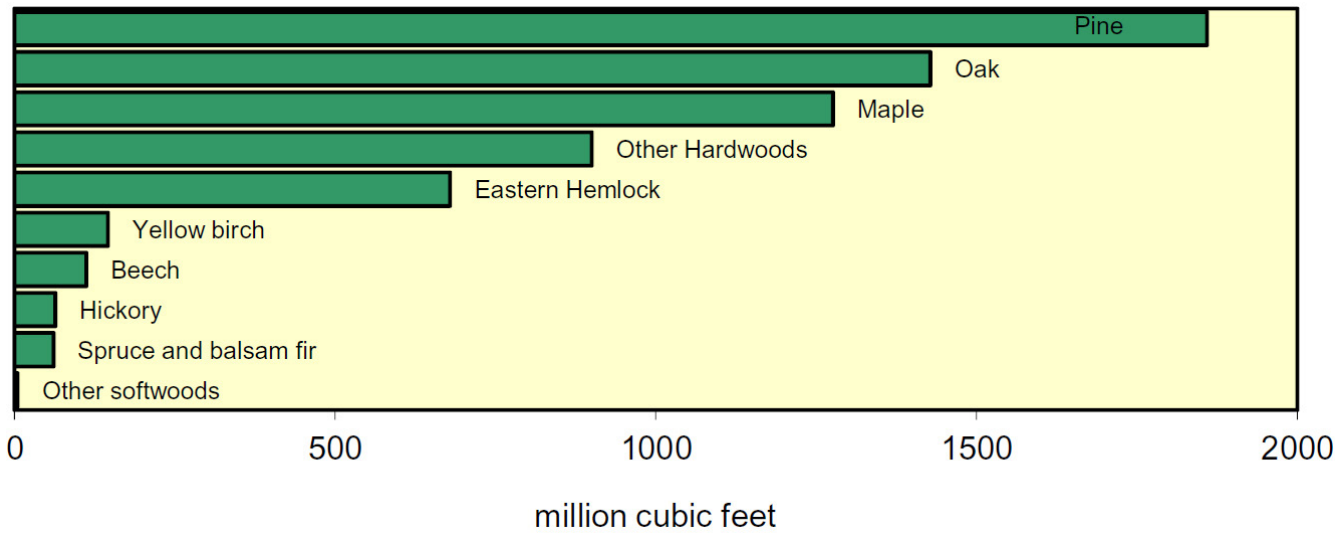




Forest Health Programs in the Northeast

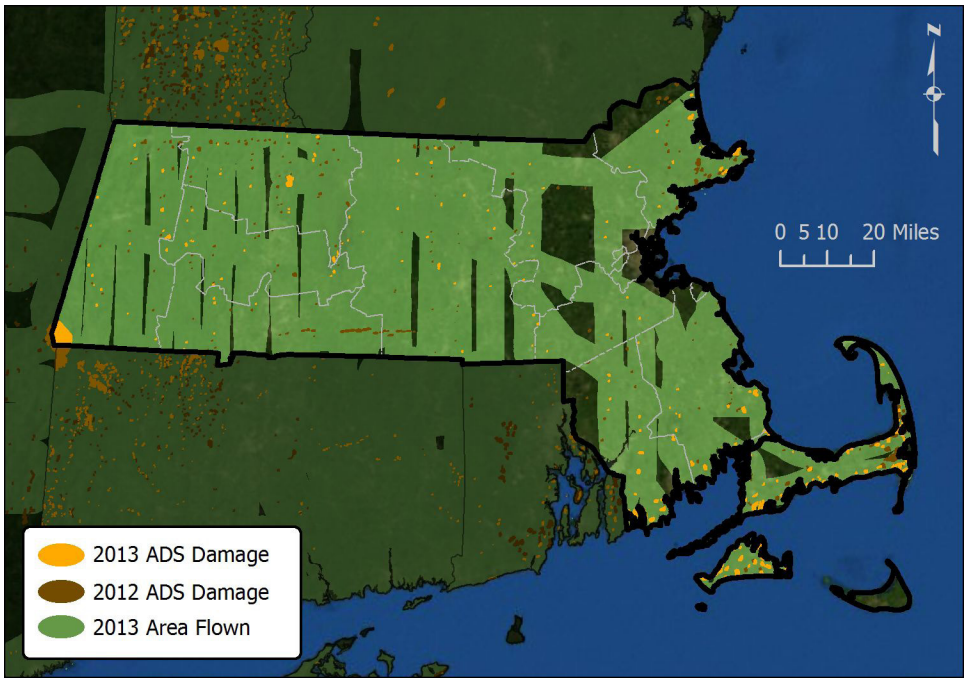
State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.

Forest Species by Volume in Massachusetts, 2007

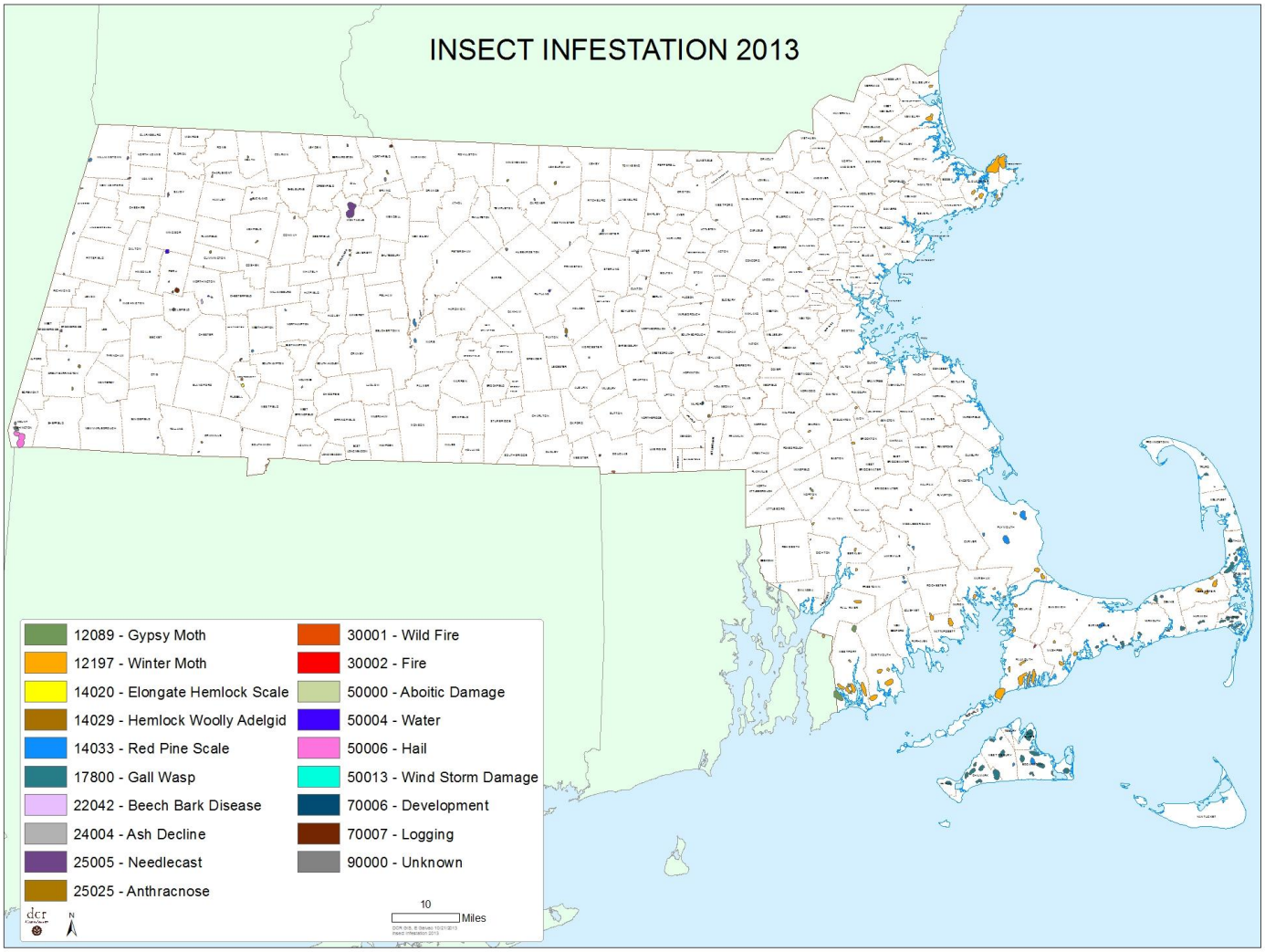


Aerial Surveys

Over 53,000 acres of defoliation and mortality were documented statewide from the annual aerial survey in Massachusetts. Although that was a small percentage of the 4½ million acres of land flown, it was more than twice the damage mapped in 2012. The greatest impacts were defoliation from winter moth (16,596 acres) and cynipid gall wasp (15,064 acres), and hail damage (10,381 acres). Gypsy moth and pitch pine needlecast disease also caused some defoliation. Tree mortality from red pine scale (*Matsococcus resinosae*) was mapped on 2,949 acres throughout the State.



Aerial detection survey (ADS) results for Massachusetts in 2012 and 2013.



Special Pest Surveys

Personnel from the Department of Conservation and Recreation (DCR) Forest Health Program deployed 435 purple panel traps throughout Massachusetts to monitor the invasive insect, **emerald ash borer**. Traps were concentrated in areas of high risk, including campgrounds and highway rest areas. In addition, 30 white ash trees at 15 locations in Berkshire County were girdled—another method used to monitor emerald ash borer.

The annual **gypsy moth** survey was conducted in preestablished plots statewide to monitor future population trends. Barnstable County plots are showing an increase in number of gypsy moth egg masses.

DCR personnel assisted the University of Massachusetts entomology program with monitoring **winter moth** populations, using both aerial and ground surveys. Results of winter moth monitoring are used to determine release locations for the predatory fly *Cyzenis albicans*.

Other Forest Health Projects

The DCR Forest Health Program continues to be the lead State agency for Asian longhorned beetle eradication efforts in the Worcester County and Boston infestations. DCR personnel also deployed and monitored 396 Asian longhorned beetle pheromone traps in the Worcester County infestation.

The DCR conducted biosurveillance for emerald ash borer by locating and monitoring areas with the predatory wasp *Cerceris fumipennis*. The DCR also conducted several releases of two biological controls, *Oobius agrili* and *Tetrastichus planipennisi*, for emerald ash borer in the Berkshire County infestation.

The DCR continues to supply wood to the USDA Animal and Plant Health Inspection Service's Otis Method Lab for rearing of and research on Asian longhorned beetle and emerald ash borer.

Forest Health Highlights

Hardwood Defoliators

In the eastern part of the State on the North and South Shores, Cape Cod, and Martha's Vineyard, 16,596 acres of defoliation caused by the **winter moth** were mapped during the annual aerial survey. The USDA Forest Service and the University of Massachusetts are making slow but steady progress using the biological control *Cyzenis albicans* for winter moth control.

Large populations of **Cynipid gall wasp** (*Callerhytis cerοpteroides*) were noticed on Cape Cod and Martha's Vineyard. Defoliation from this insect pest continues to be noticeable. With the high populations and previous winter moth defoliation, there could be further stress to black oak trees.

A small area of **gypsy moth** defoliation (2,380 acres) was mapped on the South Shore. Caterpillars showed signs of *Entomophaga maimaiga* fungus, which may help to keep future gypsy moth populations in check.

Conifer Insects

Red pine scale continues to spread slowly statewide. Moderate areas of mortality are now being mapped aerially, and 2,949 acres were seen this past growing season.

Hemlock woolly adelgid populations have increased due to warmer-than-normal winter temperatures. We continue to monitor for the previously released biological control *Laricobius nigrinus*. The Idaho strain of *L. nigrinus* (800 beetles) was released at one location in the State, Mount Sugarloaf State Reservation. The Seattle strain of *L. nigrinus*, collected at Grandfather Mountain in Banner Elk, NC, was released in two locations: Wells State Park in Sturbridge and Federated Women's State Forest in Orange.

Elongate hemlock scale has been noticed causing more stress on hemlocks statewide.

Conifer and Hardwood Diseases

Rhizosphaera needle cast disease caused widespread lower canopy defoliation on blue spruce statewide in Massachusetts.

Anthracnose leaf disease was noticed statewide primarily on sugar maple and white ash. This leaf disease causes premature leaf drop and muted fall foliage colors. In addition **tar spot leaf disease** was seen statewide on Norway maple. There were 1,216 acres mapped.

Needle diseases were not as evident during the 2013 growing season. A total of 1,837 acres of pitch pine discoloration was mapped statewide during the 2013 aerial survey.

Abiotic Concerns

An early season hail storm caused widespread defoliation in the southwest corner of the State, and 10,381 acres were mapped during the aerial survey.

References

Land Cover Map:
U.S. Geological Survey. 2011. 2006 National land cover dataset. Sioux Falls, SD.

Forest Land Ownership, Forest Species by Volume:
U.S. Department of Agriculture, Forest Service. 2009. Forest resources of the United States, 2007. Gen. Tech. Rep. WO–78. Washington, DC. 336 p.

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May 2014

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